States that do not have pesticide usage information can attempt to estimate spatial distribution of use from areal sales data and cropping patterns. However, such methods are usually not very accurate and do not give the fine resolution necessary to identify the location of a contaminant. The USDA also maintains a data base of pesticide usage, but the information is not adequate for determining the location of potential ground water contamination.

In California, a restricted pesticide can only be applied by a professionally licensed pest control advisor (PGA) or a grower who has received a special license for applying a specific pesticide. In order to apply a restricted pesticide, the applicator must report in advance the pesticide brand, name and formulation, the location (to the nearest square mile), the dosage, the crop, and the time of application. The applicator cannot obtain the permit more than one week in advance of the application. These data are then keypunched and entered into a computer. The California Department of Food and Agriculture (CDFA) summarizes the data in publicly available reports that give the number of applications, the number of pounds, and the total number of acres treated in California.

The pesticide use data have been essential in determining where to monitor for the presence of specific pesticides, and have both reduced the cost for analytical tests and increased the speed with which new contamination events could be determined.

The University of California at Davis can produce computer-generated maps of each county that show to the nearest square mile the location and amount of use for each restricted pesticide. This information has been used to determine which wells should be monitored and which chemicals the analysis should be designed to detect.

Although the principle of a data usage base is laudable, there have been significant problems with the implementation of this approach in California. There have been some inaccuracies in the data, and the total given in the CDFA annual summary use report does not equal the amount of pesticides sold as reported in the CDFA annual report on pesticides sold. A report by the Auditor General of California (1984) also criticized CDFA because the department did "not specify how these [use data] reports should be used in achieving goals." The auditor general's report also complained that the CDFA does not know the extent of inaccuracies in the summary use reports because the department does not know (a) the number of use reports that are not returned by the district offices and (b) the number of use reports rejected by the computer. There have also been inaccuracies in converting from gallons of pesticide to pounds of active ingredients. Apparently as a result of this problem, the total usage given in CDFA's annual summary report does not equal the totals given in CDFA's report on pesticides sold.